Cytodiagnostics of canine lymphomas – possibilities and limitations

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Abstract

Malignant lymphomas are one of the most common malignant tumours occurring in dogs. The basic method of lymphoma diagnosis in human, as well as in canine oncology is histopathology supported by immunohistochemistry. It was suggested that in veterinary medicine excisional biopsy of lymph node and histopathology should be considered only where the cytologic diagnosis is equivocal or needs to be confirmed. There are at least three basic reasons for which cytological examination ought to be accepted as a sufficient and reliable diagnostic method for lymphoma in dogs. Firstly, most dog owners consider the fine-needle biopsy as an acceptable non-harmful method of sample collection. Secondly, an increasing number of studies recommend cytology as an accurate test for diagnosing and subtyping canine lymphoma. Finally, the vast majority of canine lymphoma subtypes belong to 4-5 categories characterized by a typical cytological picture. Immunocytochemical staining of cytological smears gives new diagnostic possibilities, such as detection of markers better characterizing given growth or a potential goal for target therapy in individual cases (for example inhibitors of platelet-derived growth factor).

Key words: cytopathology, dogs, fine-needle biopsy, Kiel classification, lymphoma

Introduction

Malignant lymphomas are one of the most common malignancies in dogs, it has been estimated that from 13 to 33 per 100 000 dogs may become affected each year (Edwards et al. 2003, Pastor et al. 2009, Sapierzyński et al. 2010, Regan et al. 2012). Boxers, Scottish terriers, Airedale terriers, Basset hounds, German shepherds, Bulldogs and Bernese Mountain dogs are most commonly affected. Some breeds appear to be predisposed to lymphomas of a certain immunophenotype, i.e. boxers and dog de Bordeaux to T-cell lymphoma, whereas German shepherds and Rottweilers are predisposed to B-cell lymphoma (Fournel-Fleury et al. 2002, Jagielski et al. 2002, Lurie et al. 2008, Pastor et al. 2009, Jankowska et al. 2015).

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